

Memorandum of Ex Parte Presentation

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554

***Re: Ex Parte Presentation, CC Docket Nos. 01-338, 96-98, 98-147, Review of the
Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers***

Dear Ms. Dortch:

El Paso Networks, LLC (“EPN”) and Conversent Communications, LLC hereby submit the attached position paper in order to provide the Commission with additional information regarding the obligations of Incumbent Local Exchange Carriers (“ILECs”) to provide unbundled dark fiber under the Telecommunications Act of 1996. EPN and Conversent submit this position paper in response to inquiries from the Commission staff regarding the investments CLECs must make in order to use dark fiber, the ways in which CLECs use dark fiber, the existence of non-ILEC sources of dark fiber, and the appropriate impairment standard.

We are submitting this filing electronically in accordance with the Commission’s rules.

Please include a copy of this submission in the record of the above-listed proceedings. You may contact either or both of us at the addresses below should you have any questions.

Respectfully,

/s/
Stephen W. Crawford
General Counsel
Pantios Manias
Senior Vice President, Carrier Relations
Regulatory, and Business Development
EL PASO NETWORKS, LLC
1001 Louisiana St.
Houston, TX 77702
(Tel) 713-420-5896
(Fax) 713-420-4943
stephen.crawford@elpaso.com ,
pete.manias@elpaso.com

/s/
Scott Sawyer
Vice President and Counsel
CONVERSENT COMMUNICATIONS, LLC
222 Richmond Street
Suite 301
Providence, RI 02903
(Tel) 401-490-6377
(Fax) 401-272-9751
ssawyer@conversent.com

Attachments

cc: Christopher Libertelli
Matthew Brill
Jordan Goldstein
Dan Gonzalez
Sam Feder
Bill Maher
Jeff Carlisle
Carol Matthey
Jane Jackson
Rich Lerner
Jessica Rosenworcel
Scott Bergmann
Michelle Carey
Brent Olson
Tom Navin
Rob Tanner
Jeremy Miller
Ian Dillner
Claudia Pabo
Steven Morris
Aaron Goldberger
Gina Spade

Ex Parte Presentation of El Paso Networks, LLC and Conversent Communications, LLC
CC Docket Nos. 01-338, 96-98, 98-147
Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers

I. AVAILABILITY OF DARK FIBER ON EFFICIENT TERMS AND CONDITIONS ADVANCES THE COMMISSION'S GOAL OF PROMOTING FACILITIES-BASED COMPETITION.

Because competitive local exchange carriers ("CLECs") must make a substantial investment in equipment in order to light and use unbundled dark fiber obtained from incumbent local exchange carriers ("ILECs") and this fiber typically forms an integral and even essential part of the CLEC's network, unbundled dark fiber promotes facilities-based competition in a unique way. In fact, El Paso Networks, LLC ("EPN") has invested almost \$400 million to light the unbundled dark fiber that it has obtained from SBC Communications, Inc. ("SBC") in its area of operations - Texas. Similarly, Conversent Communications, LLC ("Conversent"), to date, has spent over \$30 million in capital costs in connection with its fiber networks.¹ This sizable investment is necessary to engineer, purchase, and install advanced optronics, multiplexing equipment, Dense Wave Division Multiplexing ("DWDM") equipment, and other advanced electronics to light and use the dark fiber. By investing such large sums to light unused, spare dark fiber, CLECs make efficient use of this excess fiber capacity as compared to leaving this excess fiber unused in the ILEC network. Further, CLEC investment in advanced telecommunications equipment and software to light dark fiber provides substantial revenue to telecommunications equipment providers in these challenging economic times.

In addition to the substantial investment in electronics to light the dark fiber, competitive carriers utilize dark fiber as an integral part of their network. This enables CLECs to offer more rigorous service level commitments to customers, to more effectively manage and maintain their networks, and to provide a wider variety of services than is possible with a market entry strategy that depends upon a hybrid network that is comprised of CLEC facilities and unbundled lit loops and transport. In sum, a market entry strategy that relies on use of unbundled dark fiber still requires a substantial investment by the CLEC to seamlessly incorporate the dark fiber into its network and is the closest approach to a pure facilities-based market entry strategy, as contrasted with CLEC use of other unbundled network elements ("UNEs"). CLEC use of this excess ILEC dark fiber provides needed revenue to telecommunications equipment providers and promotes facilities-based competition by enabling CLECs to share in the ubiquity of ILEC networks, which were developed under the protection of their historic government-sanctioned monopolies.

¹ Ex Parte Presentation of Conversent to Christopher Libertelli, dated October 22, 2002, at 3.

II. THE COMMISSION SHOULD CLARIFY ITS DEFINITION OF DARK FIBER TO ENSURE THAT REQUESTING CARRIERS CAN OBTAIN DARK FIBER ON EFFICIENT TERMS AND CONDITIONS.

Over the past three years, the Commission has treated unbundled dark fiber as included within the definition of the dedicated interoffice transport and loop network elements.² More specifically, the Commission found that dark fiber is “a feature, function, and capability of” these unbundled transport and loop facilities.³ In light of the substantial CLEC investment required to equip unbundled dark fiber for use as an integral part of the requesting CLEC’s network, the Commission should revisit this approach and establish unbundled dark fiber as a stand alone UNE. Further, based upon the extensive experience of state commissions and evidence regarding how CLECs use dark fiber in the market place, the Commission should clarify the definition of the dark fiber UNE to ensure that it more fully facilitates local competition and reflects the unique nature of this UNE.

As set forth in detail in EPN’s comments, ILECs have stunted competitive investment by carriers seeking to use unbundled dark fiber by unreasonably manipulating the Commission’s language in the *UNE Remand Order* to shield significant portions of their deployed dark fiber from availability. This discrimination against competitive entrants has substantially impeded CLEC access to dark fiber that is deployed in the ground and ready to be used once the CLEC makes the significant investment in equipment necessary to “light” the dark fiber. As set forth in detail below, several state commissions responding to the real-world practices of the ILECs have clarified the Commission’s existing rules by requiring ILECs to provide access to dark fiber regardless of whether it is spliced end-to-end and terminated, by detailing the information ILECs must provide CLECs regarding dark fiber availability, location and quality, and by imposing other requirements. The Commission should adopt these best practices as national rules governing nondiscriminatory access to UNE dark fiber. Adoption of these best practices of the state commissions is necessary not only to foster investment and innovation by competitors that will seek to use the network element that is most difficult to duplicate, the transmission facility, but is also required under the core principles of non-discrimination embodied in the Act.

First, ILECs should be required to provide access to unspliced and unterminated fiber on a nondiscriminatory basis. One significant “loophole” in the existing definition of dark fiber that the ILECs have concocted and then used to deny access to UNE dark fiber is based upon the Commission’s statements in the *UNE Remand Order* that “dark fiber is physically connected to facilities”⁴ and that dark fiber is “fiber optic cable connecting within two points within the

² *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, Third Report and Order and Fourth Further Notice of Proposed Rulemaking, CC Docket No 96-98, FCC 99-238, at ¶¶ 167, 174, 325-26 released Nov. 5, 1999 (“*UNE Remand Order*”) (“we modify the definition of dedicated transport to include dark fiber.” ... “We modify the definition of the loop network element to include all features, functions, and capabilities of the transmission facilities, including dark fiber and attached electronics.”)

³ *UNE Remand Order*, at ¶¶ 167, 326.

⁴ *UNE Remand Order* ¶ 174 n. 323.

incumbent ILEC's network."⁵ Using this language as a pretense, the ILECs have "refused to run the connections between fiber patch panels [termination] or to make routine fusion splices – something they have dedicated splicing crews do every day to bring their own fiber into service."⁶

ILECs regularly deploy fiber in segments with planned "breaks" in the path.⁷ These planned breaks also occur at points where larger backbone cable meets smaller distribution or lateral cables that connect to specific customer locations or remote terminals.⁸ In order to build maximum flexibility in how it uses its deployed fiber, the ILEC will place splice cases at these mid-span breaks. At these splice cases the ILEC can splice strands of fiber together in order to complete a path from one location (usually an ILEC central office) to another location, (usually a customer premises, remote terminal or with interoffice fiber another central office).⁹ Deployed fiber is also frequently left unconnected when that fiber path ends at a customer premises or remote terminal.¹⁰ When there is additional demand for that fiber, additional fiber will be terminated. The function of termination actually involves a splice.¹¹

When the issue has been raised, many state commissions have recognized that the ILEC's refusal to splice and terminate dark fiber for CLECs violates their unbundling obligations and unreasonably limits the amount of unbundled dark fiber available to CLECs. SBC, for example, has argued before state commissions in California, Indiana and Texas, that because un-terminated fiber is not connected to equipment at the customer location at the termination point it need not be unbundled. The California Public Utilities Commission ("California PUC") rejected SBC's contention noting that it "is an attempt to define away its legal obligations"¹² and that the California PUC did "not want to set a rule in place that would allow [SBC] to evade its obligations to unbundle dark fiber for CLECs, as mandated by the FCC."¹³ Likewise, SBC made similar assertions with a similar result before the Texas Public Utilities Commission ("Texas PUC"). The Texas PUC found:

⁵ Id. at ¶ 318 n. 628.

⁶ EPN Comments, at 48-50; EPN Reply Comments, at 48-50; Sprint comments at 28.

⁷ Joint Comments of El Paso Networks, CTC Communications, ConEd Communications, CC Dkt. No. 01-338, 96-98, 98-147, filed April 5, 2002, ("EPN Comments"), at Ex. 5, Testimony of R. Passmore, at 6; EPN Reply Comments, at 49.

⁸ EPN Comments, at 7; EPN Reply Comments, at 49.

⁹ EPN Comments, at 6-7, 11; EPN Reply Comments, at 49.

¹⁰ EPN Comments, Ex. 8 Townes Rebuttal Testimony at 1; EPN Reply Comments, at 50.

¹¹ EPN Comments, Ex. 12 Declaration of Patricia Hogue at 2 ("ILECs routinely perform a fusion splice to connect a fiber pigtail to a fiber cable in a splice tray").

¹² *Application by Pacific Bell Telephone Company (U 1001 C) for Arbitration of an Interconnection Agreement with MCI Metro Access Transmission Services, L.L.C. (U 5253 C) Pursuant to Section 252(b) of the Telecommunications Act of 1996*, A.01-01-010, Final Arbitrator's report Cal. PUC, July 16, 2001 at 129; EPN Reply Comments, at 50.

¹³ Id. at 130.

that SWBT incorrectly interprets the FCC's intention. SWBT states that, consistent with the FCC's mandate in Paragraph 328, it is only obligated to provide dark fiber as a UNE if the fiber connects two points in SWBT's network. The Arbitrators, however, agree with CoServ's argument that "connectivity does not equal termination." Consequently, the Arbitrators find that the *UNE Remand Order* discussed connectivity in the context of distinguishing dark fiber that was already "in place and called into service" from the example of unused copper wire "stored in a spool in a warehouse."¹⁴

Accordingly, the Texas PUC ruled that "unterminated and unspliced fibers should be made available to [the CLEC] for use as UNE dark fiber," and that "[SBC] has an obligation to provide that unspliced UNE dark fiber to [the CLEC] and splice it upon request."¹⁵ The Texas PUC explained its decision by noting that it found "no reason to distinguish between fiber that is deployed and spliced and fiber that is deployed and un-spliced; doing so would limit [CLECs'] ability to request UNE dark fiber."¹⁶

The *UNE Remand Order* describes its connection standard as meaning that the fiber is "in place."¹⁷ Even if a strand is not spliced, it is still "in place." The ILEC has already deployed the fiber in its network, along a given route, typically underground. The fact that the fiber strand is not yet spliced at certain points no more renders it "unconnected" to the SWBT network than does the fact that a strand is not yet terminated. Like unterminated fibers, fibers that have been deployed in cables but not yet spliced are within the FCC's definition of unbundled dark fiber.¹⁸

Whether or not a loop has been spliced or not does not change the fact that the fiber cable is connected to SWBT's network and is easily called into service; therefore, both spliced and unspliced dark fiber fit within the FCC's definition of dark fiber UNEs, just as unspliced and unterminated copper dead count falls within the definition of unbundled loops.¹⁹ It is clear that un-spliced or un-terminated dark fibers have been deployed and are connected to the ILEC network. This fiber is not lying idle on a spool in a warehouse. Rather, extensive funds have been spent to secure rights of way, dig up city streets, lay the conduit and fiber along the proper path to the respective customer premise or central office, close up the trenches and re-pave the city streets. This fiber is deployed, in-place fiber.

Because the splicing process is routine and is performed by legions of ILEC trained full-time splicing specialists, unspliced fiber is easily called into service. The most obvious evidence that unspliced fibers can be easily called into service is the fact that ILECs perform thousands of

¹⁴ *Petition of CoServ, Inc. et al for Interconnection Agreement with SWBT*, Docket 23396, Arbitration Award at 113-114, TX PUC, April 17, 2001; EPN Reply Comments, at 51-52.

¹⁵ *Petition of El Paso Networks, LLC for Arbitration of an Interconnection Agreement with Southwestern Bell Telephone*, Docket No. 25188, at 139, TX PUC, July 31, 2002 ("EPN Texas Revised Arbitration Award").

¹⁶ EPN Texas Revised Arbitration Award, at 139.

¹⁷ *UNE Remand Order* ¶ 174.

¹⁸ EPN Reply Comments, at 51.

¹⁹ EPN Reply Comments, at 51-53.

fiber splices for their own use. Indeed, the work is so routine, SWBT currently charges EPN only \$434 per dark fiber splice location, regardless of how many splices it performs for EPN. Further, SBC performed approximately 300 fiber splices for EPN, apparently without experiencing any difficulty, before it began to refuse to provision UNEs for which splicing is required.²⁰ Finally, SBC is also required to splice dark fiber in Indiana and Ohio, and other ILECs perform splicing for CLECs in other states.²¹

In light of these facts, the Commission should adopt the best practices regarding splicing and termination of dark fiber developed by state commissions around the country and incorporate their findings into its national rules. As discussed above, the Texas PUC recently ruled that “unterminated and unspliced fibers should be made available to [the CLEC] for use as UNE dark fiber,” and that “[SBC] has an obligation to provide that unspliced UNE dark fiber to [the CLEC] and splice it upon request.”²² Several other state commissions, including those in the District of Columbia,²³ Indiana,²⁴ Massachusetts, New Hampshire²⁵ and Rhode Island²⁶ have examined the issue and have ordered ILECs to splice dark fiber for requesting CLECs.²⁷ For example, the Massachusetts Department of Telecommunications and Energy (“MA DTE”) dismissed the arguments raised by Verizon regarding the technical feasibility of splicing dark fiber and concluded “that it is *technically feasible* and *consistent with industry practice* to lease dark fiber at splice points.”²⁸ In fact, the MA DTE concluded that Verizon itself resplices “from time to time” and that those “splice points are designated for [Verizon], itself, to use as junction points in its network.”²⁹ Accordingly, the MA DTE saw “little distinction between a splice

²⁰ EPN Reply Comments, at 53-55, 62-66.

²¹ EPN Reply Comments, at 53-55.

²² EPN Texas Revised Arbitration Award, at 139.

²³ *D.C. Dark Fiber Order*, at ¶ 62, 87.

²⁴ *Re: AT&T Communications of Indiana, Inc.*, Cause No. 40571-INT-03, Slip Opinion, at 79, 129-130 (Nov. 20, 2000) (“Indiana Order”).

²⁵ *Re: Deliberations in DT 01-206 Regarding Rates, Terms and Conditions for the UNE Remand Unbundled Network Elements*, Policy Letter, at 2 (N.H. PUC, March 1, 2002).

²⁶ *In re: Verizon-Rhode Island's TELRIC Studies - UNE Remand*, Docket No. 2681, Report and Order, at 19, 22-23 (Rhode Island PUC, Dec. 3, 2001) (“RI Dark Fiber Order”) (“Verizon is required to splice dark fiber at any technically feasible point on a time and materials basis, so as to provision continuous dark fiber through one or more intermediate central offices without requiring the CLEC to be collocated at any such offices.”); Jan. 29, 2002 Tr. at 18:21-186:3.

²⁷ EPN Reply Comments, at 48-66.

²⁸ *New England Telephone and Telegraph Company d/b/a Bell Atlantic Massachusetts*, Decision D.P.U./D.T.E. 96-83, 96-94-Phase 4-N, at 33 (Mass. DTE Dec. 13, 1999) (“We impose no collocation requirement ... it is technically feasible and consistent with industry practice to lease dark fiber at splice points.”) (“Mass. DTE Phase 4N Order”) (emphasis added); *New England Telephone and Telegraph Company d/b/a NYNEX, et al.*, Decision D.P.U. 96/73-74, 96/80-81, 96-84-Phase 4-R Order at 4-5 (Mass. DTE Aug. 17, 2000); EPN Comments, at 12-13.

²⁹ *New England Telephone and Telegraph Company d/b/a NYNEX*, Decision D.P.U./D.T.E. 96-73/74, 96-75, 96-80/81, 96-83, 96-94-Phase 3, at 48-49 (Mass. DTE Dec. 4, 1996) (“Mass. DTE Phase 3 Order”).

performed on behalf of [Verizon] and that performed for another carrier” and ordered Verizon to provide access to dark fiber at any technically feasible point including existing splice points as well as hard termination points.³⁰ The MA DTE required Verizon to perform splicing at the CLEC’s request in order to make a fiber strand “continuous by joining fibers at existing splice points within the same sheath.”³¹

The District of Columbia Public Service Commission (“DC PSC”)³² observed that the Indiana commission and MA DTE permit access to dark fiber at splice points³³ and in light of this precedent and other analysis, concluded that Verizon must provide access to dark fiber at splice points.³⁴ The Rhode Island PUC, following the lead of the Massachusetts DTE, ordered Verizon to “splice dark fiber at any technically feasible point so as to make dark fiber continuous through one or more intermediate offices *without requiring the CLEC to be collocated at any such intermediate offices*.”³⁵

On March 1, 2002, the New Hampshire Public Utilities Commission (“NH PUC”) underscored its view that “[d]ark Fiber is an important resource for promoting competition and encouraging broadband deployment in New Hampshire,” and decided to “adopt the [MA DTE] determination that access to existing splice points is technically feasible.”³⁶ In Order No. 23,948, the NH PUC determined that Verizon had “not met its burden to prove technical infeasibility” and directed Verizon to revise its UNE tariff to allow access to dark fiber at existing splice points.³⁷ Likewise in its recent arbitration with SBC in Texas, the Texas PUC required SWBT to allow EPN access to dark fiber at existing splice points and requires that SBC make the splice for EPN.³⁸

³⁰ *Mass. DTE Phase 3 Order*, at 48.

³¹ Exhibit-03, Mass. DTE No. 17, Miscellaneous Network Services, Part B, § 17.1.1.A.1; *Mass. DTE Phase 4N Order*, at 33; *D.C. Dark Fiber Order*, at ¶ 62, 87.

³² *TAC 12 – Petition of Yipes Transmission, Inc. for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with Verizon Washington, DC, Inc.*, Order No. 12286, Order on Reconsideration, at ¶ 57 (DC PSC Jan. 4, 2002) (“*D.C. Dark Fiber Order*”).

³³ *D.C. Dark Fiber Order*, at ¶ 61.

³⁴ *D.C. Dark Fiber Order*, at ¶ 62, 74, 87.

³⁵ *In re: Verizon-Rhode Island’s TELRIC Studies – UNE Remand*, Docket No. 2681, Report and Order, at 19, 22-23 (Rhode Island PUC, Dec. 3, 2001) (emphasis added).

³⁶ *Re: Deliberations in DT 01-206 Regarding Rates, Terms and Conditions for the UNE Remand Unbundled Network Elements*, Policy Letter, at 2 (March 1, 2002).

³⁷ *Order Approving in Part and Denying in Part Statement of Generally Available Terms and Conditions Additional Unbundled Network Elements*, Docket No. DT 01-206, Order No. 23,948, at 21-23 (April 12, 2002); *Order Denying Motion for Reconsideration, Rehearing, and/or Clarification*, Docket No. DT 01-206, Order No. 23,993, at 18-19 (June 13, 2002).

³⁸ EPN Texas Revised Arbitration Award at p. 161-162 (finding that splicing EPN fiber to SWBT UNE dark fiber at existing splice points and termination points is technically feasible).

In light of the best practices adopted by state commissions, the Commission should seize this opportunity to clarify its rules above, and affirm that ILECs must provide unbundled access to dark fiber that is in the ground and on poles but has not been spliced to other fiber or terminated in a building to provide service in the future on any available path.³⁹

Second, ILECs should be required to provide nondiscriminatory access to dark fiber information and neutral provisioning of dark fiber. The Commission concluded in its *First Local Competition Order*, that the provision of access to Operations Support Systems (“OSS”) “functions and the information they contain is integral to the ability of competing carriers to enter the local exchange market.”⁴⁰ The Commission further concluded that “a requesting carrier that lacks access to the incumbent’s OSS ‘will be severely disadvantaged, if not precluded altogether, from fairly competing.’”⁴¹ In addition, in its *UNE Remand Order*, the Commission clarified that “OSS includes the manual, computerized, and automated systems, together with associated business processes and the up-to-date data maintained in those systems.”⁴² These astute conclusions remain accurate today and should be reaffirmed by the Commission in rules that require ILECs to provide the same access to information regarding the location, quality, and availability of dark fiber that they provide to their own employees and agents. In the absence of nondiscriminatory access to OSS information regarding dark fiber, CLECs must play a game of “go fish” involving the submission of a series of facility checks or inquires until they hit on the right combination of A and Z locations where fiber is available.⁴³ This cumbersome process often results in the loss of the potential customer to the ILEC whose personnel have unfettered access to databases and maps regarding dark fiber that contains information that is generally unavailable to CLECs.⁴⁴

Several state commissions have recognized the importance of nondiscriminatory access to information regarding the location, quality, and availability of dark fiber. These state commissions have adopted orders that specify exactly what information and documentation the ILEC must provide during the dark fiber UNE preordering, ordering, and provisioning processes. The NH PUC, for example, directed Verizon to “provide initial availability information within

³⁹ For example, in its arbitration with EPN in Texas, SBC contended that it was not obligated to provide unbundled access to dark fiber in the loop plant unless that fiber was deployed between a SWBT *serving* wire center and the customer premise and claimed that other fiber from wire centers other than the serving wire center was a “Route other Than Normal” or “ROTN” and not available as a UNE. The Texas PUC rejected SBC’s proposed distinction. EPN Texas Revised Arbitration Award at 36-37. By adopting the rule proposed herein by Conversent and EPN, the Commission would prevent ILECs from using definitional artifices to obstruct CLEC access to dark fiber on an unbundled basis.

⁴⁰ *UNE Remand Order*, at ¶ 421; *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, First Report and Order, 11 FCC Rcd. 15499, at ¶ 518 (1996) (“*First Local Competition Order*”); EPN Reply Comments, at 67-68.

⁴¹ *UNE Remand Order*, at ¶ 421, quoting, *First Local Competition Order*, at ¶¶ 516-516.

⁴² *UNE Remand Order*, at ¶ 425; EPN Reply Comments, at 67-68.

⁴³ EPN Reply Comments, at 69-72; Joint Comments of NuVox, KMC *et al*, at 78.

⁴⁴ EPN Reply Comments, at 68-77.

15 business days” of a dark fiber inquiry.⁴⁵ Where Verizon determines that “no facilities are available,” the information provided within 15 business days must “identify for the CLEC the route triggering the ‘no facilities available’ response, indicate what alternate routes have been investigated, and show the first blocked segment on each route as well as all of those segments which are not blocked.”⁴⁶ Further, the NH PUC requires that if Verizon determines that dark fiber is unavailable, unless the CLEC affirmatively declines by checking a box on the dark fiber inquiry form, Verizon shall provide a written response within thirty (30) days of the CLEC’s dark fiber inquiry that sets forth specific reasons why dark fiber cannot be provided and must include, at a minimum, the following information:⁴⁷

total number of fiber sheath and strands between points on the requested routes, number of strands currently in use and the transmission speed on each strand (e.g. OC-3, OC-48), the number of strands in use by other carriers, the number of strands reserved for Bell Atlantic’s use, the number of strands lit in each of the three preceding years, the estimated completion date of any construction jobs planned for the next two years or currently underway, and an offer of any alternate route with available dark fiber. In addition, for fibers currently in use, Bell Atlantic shall specify if the fiber is being used to provide non-revenue producing services such as emergency service restoration, maintenance and/or repair.⁴⁸

Such information is essential in order for a CLEC to determine the veracity of any claim by an ILEC that dark fiber is not “available” on a particular route and to determine whether alternative routes are available.⁴⁹ Following the lead of the NH PUC, the Rhode Island Public Utilities Commission also required Verizon to assume the responsibility of identifying alternative dark fiber routes between central offices requested by a CLEC where the route requested by the CLEC is unavailable because Verizon “is the entity most familiar with its own network configuration.”⁵⁰ Similarly, the New Jersey Board of Public Utilities recently directed Verizon “to provide specific details to the CLEC and staff for review within five calendar days of the

⁴⁵ *Order Approving in Part and Denying in Part Statement of Generally Available Terms and Conditions Additional Unbundled Network Elements*, Docket DT 01-206, Order No. 23,948, at 7 (April 12, 2002) (“Order No. 23,948”).

⁴⁶ Order No. 23,948, at 7.

⁴⁷ *Order Finding Dark Fiber Subject to the Unbundling Requirement of Section 251 of the Telecommunications Act of 1996*, Order No. 22,942, DE 97-229, at 8-9 (May 19, 1998) (“NH Dark Fiber Order”).

⁴⁸ *NH Dark Fiber Order*, at 8 (emphasis added); Order No. 23,948, at 7.

⁴⁹ On September 5, 2001, for example, Verizon rejected a request by CTC for dark fiber transport from Verizon’s central office at 266 Main Street, Burlington, Vt. CLLI BURLVTMA to CTC’s POP at 1193 South Brownell Rd. CLLI VLSTVT07. *See, e.g.*, Exhibit-11, Vermont Dark Fiber Inquiry Form.

⁵⁰ *In re: Verizon-Rhode Island’s TELRIC Studies – UNE Remand*, Docket No. 2681, Report and Order, at 22 (Rhode Island PUC, Dec. 3, 2001).

rejection” in order for the CLEC to “have the ability to challenge any claims by Verizon NJ that sufficient dark fiber does not exist.”⁵¹

In addition, the Maine Public Utilities Commission (“ME PUC”) has determined that as a condition of a favorable Section 271 recommendation, if Verizon believes that dark fiber is unavailable, then within thirty (30) days of a separate request from a CLEC, Verizon must provide the CLEC with “written documentation and a fiber map.”⁵² The written documentation must include, at a minimum, the following detailed information:

- a map (hand-drawn, if necessary) showing the spans along the most direct route and two alternative routes (where available), and indicating which spans have spare fiber, no available fiber, and construction jobs planned for the next year or currently in progress with estimated completion dates;
- the total number of fiber sheaths and strands in between points on the requested routes;
- the number of strands currently in use or assigned to a pending service order;
- the number of strands in use by other carriers;
- the number of strands assigned to maintenance;
- the number of spare strands; and
- the number of defective strands.

Finally, the Texas PUC recently recognized that “EPN is attempting to buy unbundled dark fiber and cannot reasonably do so without knowledge of where such fiber exists.”⁵³ Accordingly, the Texas PUC concluded that “CLECs are entitled to all information available in SWBT’s backend systems, not a subset of that information that SWBT chooses to provide.”⁵⁴ Therefore, the Texas PUC concluded that “in response to an EPN facility check request, SWBT’s engineers will detail any and all facilities in or near the building that can be used for possible service to the customer,” and will supply “all information relevant to EPN’s request, including, but not limited to, fiber route and path information.”⁵⁵

In sum, the Commission should adopt the best practices of these state commissions and should specify that its OSS rules require ILECs to afford CLECs nondiscriminatory, parity access to maps and data regarding the location and characteristics of dark fiber. The current lack of a specific rule requiring such access impedes a CLECs ability to locate dark fiber and allows

⁵¹ *NJ Dark Fiber Order*, at 248.

⁵² *Inquiry Regarding the Entry of Verizon-Maine into the InterLATA Telephone Market Pursuant to Section 271 of the Telecommunications Act of 1996*, Docket No. 2000-849, Letter of Dennis L. Keshl (March 1, 2002) (“*Maine Section 271 Order*”).

⁵³ *Petition of El Paso Networks, LLC For Arbitration of an Interconnection Agreement with Southwestern Bell Telephone Co.*, PUC Docket No. 25188, Revised Arbitration Award, at 41 (Texas PUC 2002) (“*Texas Revised Arbitration Award*”); EPN Reply Comments, at 74.

⁵⁴ *Texas Revised Arbitration Award*, at 40.

⁵⁵ *Texas Revised Arbitration Award*, at 40, 56, 64, 67.

the ILEC to “hide the ball,”⁵⁶ and force the CLEC to “guess” where fiber is located.⁵⁷ Information about where the UNEs are available and what facilities are available is essential to the proper functioning of the market.⁵⁸ At a minimum, the ILECs should be required to provide CLECs maps showing where fiber was deployed.⁵⁹

Based on both EPN’s and Conversent’s experience regarding how dark fiber is actually deployed by ILECs and used by CLECs, and the extensive experience of state commissions regarding dark fiber UNEs, the Commission should adopt the following definition of unbundled dark fiber:

The unbundled dark fiber network element consists of all unlit fiber in place within the incumbent LEC network, including any splicing or cross connects required to provide an uninterrupted transmission path between two points selected by the requesting carrier, that can be used for the provision of a telecommunications service. Notwithstanding the foregoing, the incumbent LEC may reserve an appropriate number of strands of dark fiber as maintenance spares to be used to restore services provided by the incumbent LEC and other carriers on a nondiscriminatory basis. The dark fiber UNE includes any necessary splicing of the fiber to create a continuous optical transmission path from any point(s) on the incumbent LEC network to interconnect with the requesting carrier’s, the incumbent LEC’s, or a third-party’s collocation facilities, termination equipment, or lit fiber network, or to connect to the requesting carrier’s customer. To the extent technically feasible, requesting carriers may access dark fiber at existing splice cases and at intermediate wire centers or central offices without the need for collocation at each wire center or central office. Incumbent LECs are required to provide nondiscriminatory access to the same information regarding the availability, location, performance, and condition of incumbent LEC dark fiber that is available to any incumbent LEC employee or agent, including any maps or other data showing the availability and location of incumbent LEC fiber strands. Such nondiscriminatory access requires the incumbent LEC to provide the CLEC electronic access to such maps and data when the incumbent LEC personnel has electronic access. A requesting carrier may use unbundled dark fiber to provide any service that the fiber is capable of supporting, as long as the requesting carrier is using the dark fiber at least in part to provide a telecommunications service.

⁵⁶ EPN Reply Comments, at 76-77; Conversent Comments, Graham Decl. ¶ 32.

⁵⁷ Conversent comments, Graham Decl. ¶ 32.

⁵⁸ Petition of El Paso Networks, LLC for Arbitration of an Interconnection Agreement with Southwestern Bell Telephone, Docket No. 25188, TX PUC, Hearing Transcript, April 22-25, 2002, at pp. 358-359.

⁵⁹ Conversent comments, Graham Decl. ¶ 32.

In providing optical network services, competing carriers are able to offer many telecommunications services to their customers that are cheaper and are superior in terms of bandwidth capacity, reliability, and transmission provisioning performance than those services typically available from traditional telecommunications carriers. For example, CLECs use dark fiber to provide wavelength services, SDSL, integrated DS-1 service and other advanced services. This superior performance comes at substantial cost to these carriers, as the optronics equipment that they must deploy is one of the most expensive parts of an optical network—. ⁶⁰ In light of the substantial investment that CLECs must make to employ unbundled dark fiber in contrast with UNE loops and transport, the Commission should make unbundled dark fiber a stand alone UNE.

III. THE COMMISSION SHOULD RULE THAT REQUESTING CARRIERS ARE IMPAIRED IN THE ABSENCE OF DARK FIBER UNLESS FOUR SUBSTITUTES ARE AVAILABLE.

In its decision in *USTA v. FCC*, the D.C. Circuit explained that the Commission must consider the extent to which the entry barriers associated with obtaining a network element from a source other than the ILEC in a particular market are significant enough (because the UNE shares the attributes *to some degree* of a natural monopoly) that competition would be harmed absent the imposition of an unbundling obligation. *See United States Telecom Ass'n v. FCC*, 290 F.3d 415, 426-427 (D.C. Cir. 2002). The court did not bind the Commission to any particular methodology, but it did indicate that the Commission's analysis must take into consideration the economies of scale needed to deploy a network element efficiently and the extent to which competitors have in fact deployed the network element in a particular market. *Id.* at 422 (noting actual switch deployment by 3 or more competitors in 47 of the 50 markets); *id.* at 423 (citing relevance of evidence that competitors had deployed transport in the top 50 markets). In order to conduct an impairment analysis that accounts for these factors, the Commission must employ principles of competition policy that it has used in non-dominance and merger proceedings. These principles can be used to determine the extent to which an ILEC possesses substantial and persisting market power over the provision of a network input needed by the ILEC's competitors. Where this is the case, the ILEC will have the incentive to harm competition by overpricing and in some circumstances denying altogether requesting carriers' access the UNE.

The conventional way to assess the extent to which an ILEC has substantial and persisting market power over the provision of an input like a UNE is to define the relevant product and geographic markets, assess the level of concentration in the relevant market, and then assess the extent to which that level of concentration reflects market power by examining entry barriers in the market. ⁶¹ This general framework can be readily adjusted to the particular

⁶⁰ In fact, CompTel estimates that over \$20 Billion in optical network related capital expenditures has been invested by new, primarily local metro, optical carriers since the inception of the Act. *See* CompTel CapEx Report, pp. 10-13. This does not include optimization of traditional ILEC/IXC/CLEC networks with fiber technology.

⁶¹ *See Regulatory Treatment of LEC Provision of Interexchange Services Originating in the LEC's Local Exchange Area; Policy and Rules Concerning the Interstate, Interexchange Marketplace*, Second Report and Order in CC Docket No. 96-149 and Third Report and Order in CC Docket No. 96-61, 12 FCC Rcd 15756, ¶ 26 (1997).

circumstances of the impairment analysis. As explained below, the Commission should do so by examining (1) the extent to which requesting carriers can reasonably be expected to substitute their use of one UNE for another (e.g., whether lit transmission facilities are a reasonable substitute for dark fiber); (2) the relevant geographic area in which alternative sources of supply should be deemed substitutes; and (3) the appropriate standard for impairment in light of the relevant barriers to entry in the market. In the following sections, each of these issues is discussed with regard to dark fiber.

A. Dark Fiber Constitutes A Separate “Product Market” For Purposes Of The Impairment Analysis.

As the Commission has recognized, the relevant product market should be defined by reference to customer demand.⁶² That is, where customers view two products as “substitutes” they belong in the same product market. Ideally, the question of whether two products are substitutes is determined by assessing the extent to which customers have and will switch from product A to product B and vice versa in response to an appropriately defined price increase in either A or B. But given that this kind of data is unavailable for dark fiber (or probably for any other UNE) in this proceeding, the Commission should instead examine the manner in which requesting carriers actually use dark fiber and compare that use to the service characteristics of any possible substitutes. In the case of dark fiber, the only possible substitute would be lit transmission facilities. As explained below, however, a close examination of dark fiber demonstrates that it must be viewed as a separate product market for purposes of the impairment analysis.

The most important difference between dark and lit fiber is that dark fiber gives carriers much greater control over the quality of service requesting carriers can offer. This is so for two basic reasons. First, reliance on wholesale lit transport causes requesting carriers to introduce many more potential points of failure than is the case with wholesale dark transport. For example, as Conversent has explained, lit interoffice transport requires that the wholesale provider place a multiplexer on each end of a particular span.⁶³ In order to integrate this transport into its ring topography, Conversent would need to add another multiplexer in between the wholesale carrier’s two multiplexers (which are on the end of two separate transmission links that need to be connected in the central offices where Conversent is collocated for the ring architecture to work). *Id.* at ¶ 21. Thus, if forced to use wholesale lit transport, Conversent would use three multiplexers (two ILEC and one Conversent) in each central office in which it has collocated. Where Conversent uses dark fiber transport, it need only deploy one (Conversent) multiplexer in each central office in which it has collocated. *Id.* Importantly, each additional multiplexer represents an additional potential point of network failure for a carrier. It is obvious therefore that relying on wholesale lit transport adds many more potential points of failure. In Massachusetts, for example, Conversent has shown that relying on lit interoffice

⁶² *Id.* ¶ 26.

⁶³ See Declaration of David A. Graham, filed as Exhibit 1 to the Comments of Conversent Communications, LLC (Apr. 5, 2002) at ¶ 20, Attachment 1 (“Conversent Graham Dec.”).

transport would force it to use 96 more multiplexers, and would thus introduce 96 more potential points of failure, than is the case with dark fiber. *Id.* ¶ 22. Degradation in service quality is almost inevitable where so many additional potential points of failure are added.

Second, a CLEC relying on wholesale lit transport facilities cannot monitor their networks from its Network Operations Center (“NOC”). As a result, CLECs lose the ability to monitor their networks and to ensure timely repair and maintenance. Yet this control is absolutely critical to a CLEC’s ability to compete. Such control extends not only to the deployment and maintenance of its own optical equipment, but also to the ability to monitor the performance of that equipment 24 hours/day, 7 days/week. Reliance on lit transport deprives CLECs of this level of control. Thus, the interoperability of dark fiber with an optical carrier’s existing optonics and network management equipment, and the corresponding level of network performance and control that dark fiber affords, make dark fiber a UNE with properties that are uniquely valuable to optical network services providers.

These service quality problems make it virtually impossible for many purchasers of dark fiber transport to replace that transport with lit transmission facilities. This is because optical network service providers typically need to guarantee a very high level of service quality and commit to the payment of liquidated damages if these service levels are not met. These contract performance commitments are known as “service level agreements,” or “SLAs.” The service levels required under these SLAs in some cases exceed any minimum performance targets that are available under existing ILEC inter/intrastate access tariffs, or state-specific UNE performance standards for equivalent transmission UNEs such as loops or transport. Correspondingly, the consequential damages likely to be suffered by carrier or “critical needs” customers (and, thus, the contractual liquidated damages) may well exceed any comparable refunds or payments that are available in either access tariffs or under state UNE performance assurance plans.

In addition to service quality differences, reliance on dark fiber in some cases allows requesting carriers to provide services that could not be offered using wholesale lit fiber transport. For instance, in some cases, CLECs using dark fiber offer customers services or capacity levels not available from the ILEC special access tariffs. Examples include products such as gigabit Ethernet or the selling of individual wavelengths.⁶⁴ These services are not readily available in the lit service market, but can be and are available from carriers that use dark fiber.

Finally, it is also significant that dark and lit fiber are purchased in different ways. Dark fiber is by its nature raw capacity, free of electronics. The capacity of the circuits established by the carrier purchasing dark fiber are a function of the electronics deployed by the purchasing carrier. Lit transport, on the other hand, is purchased at a defined capacity level (DS1, DS3, etc.) that cannot be changed except by reordering (often a cumbersome and error-prone process). As

⁶⁴ Using DWDM, EPN can divide the capacity of four fiber strands into 16 individual wavelengths, each with a capacity of an OC48. EPN's customers can purchase an OC48 wavelength. By purchasing the wavelength, EPN's carrier customers can then obtain lit capacity from EPN yet retain the flexibility to manage and control the capacity and services it provides to its own consumers over its own network.

a result, dark fiber affords purchasing carriers far greater flexibility to adjust the capacity of their networks to meet demand than is the case with lit fiber. With dark fiber, the requesting carrier decides when, how, and how quickly to upgrade or downgrade the capacity of the service based on the needs of its customer. This provides additional benefits to the customer since there is no issue of lack of facilities and the turnaround time is mutually negotiated. This difference in flexibility further reinforces the conclusion that lit and dark fiber are perceived by carrier purchasers as fundamentally different.

For all of these reasons, carriers that seek dark fiber would find wholesale lit facilities to be an unacceptable substitute, and are unlikely to switch to lit transport in response even to a significant price increase in dark fiber. The Commission should therefore view dark fiber as a separate “product market” and conduct an entirely separate impairment analysis for dark fiber on the one hand and unbundled lit transmission facilities on the other.

B. Each Point-to-Point Route On Which ILEC Dark Fiber Exists Constitutes A Separate “Geographic Market” For Purposes Of The Impairment Analysis.

One important aspect of the *USTA v. FCC* decision is its insistence on a granular analysis of impairment where differences in market characteristics exist. See *USTA v. FCC*, 290 F. 3d at 422-23. With regard to transmission facilities like dark fiber, it is clear that requesting carriers view each point-to-point route on which ILEC dark fiber exists as a separate geographic market. Stated differently, a requesting carrier that needs transmission between points A and B cannot substitute that functionality with transmission between points B and C. It follows that each separate point-to-point route on which dark fiber transport exists should constitute a separate geographic market for purposes of the impairment analysis.

This conclusion is consistent with Commission precedent. In the UNE Remand Order, for example, the Commission recognized that each point-to-point route served by a particular transport facility must be examined separately for purposes of impairment. See *UNE Remand Order* ¶ 333. If anything, this conclusion is even more pertinent in light of the logic of the *USTA v. FCC* decision.

It is important to emphasize that a non-ILEC source of supply should not be viewed as an offering in the same geographic market as ILEC dark fiber if the non-ILEC fiber merely passes near one or more of the end points served by the ILEC dark fiber. In other words, the non-ILEC dark fiber must actually connect both end points. The obstacles that stand in the way of constructing a lateral facility to connect the non-ILEC dark fiber provider’s facilities to the end points served by the ILEC are simply too significant to assume that such a network extension could be efficiently constructed. Those obstacles are discussed in detail below. They include the cost, delay, and uncertainty associated with obtaining permits, performing excavation work, and securing necessary access to rights-of-way, pole attachments, and conduit space. But perhaps even more importantly, the costs of constructing facilities such as laterals vary greatly depending on the particular circumstances. For example, Conversent has explained, and EPN agrees, that the per mile construction cost of deploying dark fiber increases by approximately ten times

where the carrier cannot obtain access to underground conduit.⁶⁵ The charges and delays associated with obtaining access to public rights-of-way also vary significantly from municipality to municipality. In addition, it may not even be possible for the non-ILEC supplier to establish physical collocation in an ILEC central office if the supplier does not seek access to UNEs or interconnection with the ILEC. See 47 U.S.C. § 251(c)(6). The demand for the purchase of transmission facilities is also likely to vary widely from one lateral location to another. All of this makes it simply impossible for the Commission to assume that a non-ILEC provider of dark fiber can efficiently extend its network to connect points not already served by that non-ILEC provider.

Finally, even where a non-ILEC source of dark fiber connects end points served by the ILEC's dark fiber, the non-ILEC supplier should not be viewed as actually serving the relevant geographic market unless the ILEC has eliminated the barriers to seamless interconnection between the non-ILEC source of supply and either the requesting carrier's own network or the ILEC's dark fiber. For example, the ILEC must have in fact complied with its legal obligation to provide cross-connects between non-ILEC collocated facilities, in a cost effective, nondiscriminatory, and timely manner, which would include the use of the existing CLEC cabling within the central office. The ILECs must also provide through-testing to ensure adequate service quality, cooperative testing with multiple vendors, and allow CLECs access to any test point in the network to accommodate testing. The ILEC, the non-ILEC supplier and the CLEC must be able to jointly monitor the facility and proactively seek the quality of service necessary on the facility.

C. The Market For Dark Fiber Is Characterized By Unusually High Entry Barriers.

As mentioned, the D.C. Circuit explained in *USTA v. FCC* that the Commission's impairment analysis must be linked to some degree to the extent to which duplication of a particular network element is characterized by higher-than-usual entry barriers, especially economic of scale that might make duplication by numerous competitors wasteful. See *USTA v. FCC*, 290 F.3d at 427. There is little doubt that dark fiber is characterized by very substantial entry barriers generally, and in particular economies of scale (and scope, where multiple services can be provided over the transport).

First, dark fiber is characterized by economies of scale. In absolute terms, the cost of deploying fiber facilities are enormous, including: the estimated \$200,000 to \$528,000 per mile costs of fiber deployment in dense urban areas;⁶⁶ municipal rights of way issues, licensing and the coordination of "street digs" (which can cause serious deployment delays); high municipal fees and other onerous conditions placed upon CLECs, local moratoria on fiber deployment,

⁶⁵ See *Conversent Graham Dec.* 29-30.

⁶⁶ EPN Reply Comments, at 25, 33-34, 41-42; EPN Texas Report, at 35 ("EPN has seen that generally the costs for placement of fiber in metropolitan areas is approximately \$100 per foot.").

collocation costs and delays, and most importantly the continued closure of financial markets to CLECs.⁶⁷

WorldCom, for example, reports that to add a central office to its network would cost at least \$1 million, and the cost would be substantially more if the central office is located several miles from its existing network, which is often the case.⁶⁸ In addition to these costs the CLEC must incur collocation costs that will range from \$15,000 to \$500,000.⁶⁹ EPN's experience in Texas has been that the costs for placement of fiber in a metropolitan area in Texas is approximately \$100.00 per foot.⁷⁰ In addition to the high cost of building out fiber, the cost of building access is also high. Accordingly, in EPN's experience a fiber build of 10 miles at \$100.00 per foot results in build-out costs of approximately 4.5 million dollars for placing the fiber in the ground.⁷¹ If the customer to which the fiber was built purchased a single DS3 from EPN, which has a market price of approximately \$2,400.00 per month it would take over 150 years for EPN to recover the cost of this initial fiber build.⁷² The point can be similarly illustrated by the fact that Conversent generally needs only four dark fiber strands to carry its interoffice traffic. Yet Verizon normally places over 90 strands in its interoffice transmission facilities. Verizon's fixed costs are obviously recovered over a much larger number of strands than would be the case with most competitors.

Such economies of scale deter entry because a potential entrant is faced with the prospect that it will not be able to achieve the minimum viable scale, either by carrying its own traffic on the facilities and/or that of wholesale customers, needed to support such an investment.⁷³ The economies of scale also deter entry because construction of extra fiber may add enough output to drive prices below the profitable level.⁷⁴ Either possibility is realistic given that a particular dark fiber facility can only carry traffic between two points and therefore its owner can only recover the cost of the facility from those that need to send traffic between those two points. Unlike switches, for example, the cost of dark fiber transmission facilities cannot be recovered from customers in a broad geographic area. This makes scale economies especially significant.

Second, investment in dark fiber requires the commitment of large upfront sunk costs. Indeed, virtually every one of the costs associated with dark fiber deployment is unrecoverable

⁶⁷ EPN Texas Report, at 30-40; Comments of WorldCom, Inc., CC Dockets No. 01-338, 96-98, 98-147, at 19-22 (April 5, 2002) ("WorldCom Comments").

⁶⁸ WorldCom Comments, at 21 ("the extension of WorldCom's local network to an additional ILEC central office generally costs at least \$1 million").

⁶⁹ AT&T Comments, at 126; UNE Remand Order, at ¶ 357.

⁷⁰ EPN Texas Report, at 35.

⁷¹ EPN Texas Report, at 35.

⁷² EPN Texas Report, at 35.

⁷³ See Phillip E. Areeda, Herbert Hovenkamp, & John L. Solow, *Antitrust Law, An Analysis of Antitrust Principles and Their Application* Vol IIA, ¶ 44, pp. 65-66 (2d Ed. 2002) ("Areeda et al").

⁷⁴ *See id.*

once incurred. This makes investment in dark fiber much more risky than most other kinds of investment, and therefore both more costly (lenders expect higher returns when faced with greater risks) and less likely than other kinds of investment⁷⁵

Third, potential entrants into the market for dark fiber must often obtain essential inputs from third parties. The need to obtain such inputs has been recognized as an independent entry barrier in competition policy.⁷⁶ Perhaps the most important input needed from third parties is building access. EPN has found that the fees demanded by landlords to access a building can range from a few thousand dollars to a few hundred thousand dollars.⁷⁷ In some instances, property owners are demanding over \$15,000 in up front fees to enter a building and charge rates of up to \$250.00 per inch for vertical riser space and \$100.00 per inch for horizontal riser space per month.⁷⁸ The high cost of adding buildings to a network coupled with the downturn in capital markets will ensure that whatever pace of “building adds” may have existed before will be significantly curtailed.⁷⁹ As mentioned, access to rights-of-way also poses a significant entry barrier.

Even when it is possible to obtain access to buildings and rights-of-way, the process results in substantial delay (ultimately a form of cost to the prospective entrant). In EPN’s experience it typically takes four to six months to negotiate a building entrance agreement with the property owner.⁸⁰ After securing a building entrance agreement and paying the access fees, construction for even a minor fiber job generally takes more than four months to complete.⁸¹ Thus, at a minimum, it generally takes a CLEC eight to nine months to construct a spur to add a building to its network, and that is if it is able to secure the rights-of-way without much difficulty.⁸²

Fourth, potential entrants into the market for dark fiber suffer from the ILECs’ substantial first-mover advantages. That is, the ILECs have obtained access to public rights-of-way, to private buildings, and to investment capitol during the period of protected monopoly status on terms and conditions that are more favorable than can be obtained by new entrants. This fact makes it even more unlikely that there will be significant competitive deployment of dark fiber. As mentioned, ILECs generally do not face the same building access and rights-of-way obstacles faced by a potential entrant. This is because ILECs already have the facilities in place and can provide the facility in a matter of days.⁸³ As AT&T demonstrates, most customers

⁷⁵ *Id.* at 421c, pp. 67-69.

⁷⁶ *Id.* at 421e, pp.69-70.

⁷⁷ EPN Reply Comments, at 33-35, 41; EPN Texas Report, at 33, 31-33.

⁷⁸ EPN Texas Report, at 35.

⁷⁹ WorldCom Comments at 20.

⁸⁰ EPN Reply Comments, at 44-46; EPN Texas Report, at 30-31, 35.

⁸¹ EPN Reply Comments, at 44-46; EPN Texas Report, at 31.

⁸² EPN Reply Comments, at 44-46; EPN Texas Report, at 30-31, 35; see, WorldCom Comments, at 20.

⁸³ WorldCom Comments, at 20; AT&T Comments, at 147.

“do not approach CLECs until they need capacity on short notice,” thus, customers “are generally unwilling (or unable) to wait for the CLEC to complete the lengthy building process, especially since the ILEC can usually meet their needs immediately with its existing, ubiquitous network.”⁸⁴

In sum, the presence of alternative competitive facilities demonstrates that CLECs will deploy facilities when it is prudent and practical to do so.⁸⁵ However, the very substantial entry barriers to the provision of dark fiber facilities mean that the ILECs will likely face very little significant competitive entry in this market.

D. In Light Of The Entry Barriers Associated With Competitive Provision Of Dark Fiber, The Commission Should Adopt A Four Substitute Test For Impairment.

The presence of high barriers to entry in the provision of dark fiber has three important consequences for the dark fiber impairment analysis. *First*, the presence of substantial economies of scale in particular demonstrates that dark fiber is precisely the kind of network facility that should, absent evidence of multiple non-ILEC sources of supply (discussed below), be unbundled. Indeed, the Commission should establish a strong national presumption of impairment in the absence of unbundled dark fiber.

The available evidence supports the reasonableness of this conclusion. Dark fiber from non-ILEC providers is not available over most point-to-point routes and at the overwhelming majority of commercial office buildings.⁸⁶ AT&T’s data, for example, indicates that CLECs have penetrated less than 6% of commercial buildings, and for most of those buildings CLECs are able to serve only particular floors or customers.⁸⁷

EPN’s experience in Texas demonstrates that dark fiber loops are rarely available from providers other than the ILEC in the four major metropolitan areas in which it operates in Texas. Specifically, the percentage of commercial buildings where SBC has deployed fiber that are also accessible using dark fiber loop facilities from alternative providers is at best an average of 2.02% for the four large Texas metropolitan areas that were studied.⁸⁸ In smaller cities, suburban and rural areas, the percentage of buildings that can be accessed using dark fiber facilities from alternative providers is likely to be much lower because nearly all alternative fiber providers have rationally elected to focus their efforts on markets with the highest traffic density.

⁸⁴ AT&T Comments, at 147 (“even if the ILEC has to increase its capacity to serve the new customer demand, it can generally do so by adding electronics to the existing in-place facilities, without having to obtain permission from any third party or to construct additional [fiber] cables.”).

⁸⁵ AT&T Comments at 124.

⁸⁶ EPN Reply Comments, at 30-32.

⁸⁷ AT&T Comments, at 152.

⁸⁸ EPN Texas Report, at iv.

The findings of the EPN Texas Report regarding the limited number of buildings served by CLEC fiber are confirmed by the CGC Study. The CGC Study, for example, determined that in Corpus Christi, Texas, only 18 buildings were connected with CLEC fiber out of 7,390 establishments in the MSA; and in Albany, New York, only 24 buildings were connected with CLEC fiber out of 16,616 establishments in the MSA.⁸⁹ Moreover, the CGC Study also determined that in the cities examined in the Study, including Albany, Augusta, Boston, Chicago, Corpus Christi, and Portland, none of the CLECs studied in these markets offered dark fiber or wholesale fiber loops for sale or lease to other CLECs.⁹⁰

In addition, as WorldCom notes, the ability to serve a particular commercial office building does not mean that a CLEC will be able to fully meet the needs of a business customer. Most businesses will have multiple locations, and not all of them will generate the same amount of traffic.⁹¹ Thus, even if a CLEC can add one building to its network, the CLEC will still most likely have to rely on unbundled loops to serve the other locations.⁹²

ILECs have grossly overstated the amount of fiber that is available from alternate suppliers. First, the ILECs statistics contain numerous errors, for example overstating the amount of fiber that EPN plans to deploy, and the ILECs have completely ignored the impact of CLEC bankruptcies and the closure of capital markets on CLEC plans to deploy fiber. The ILECs also conveniently ignore the fact that many CLECs that have deployed fiber, such as Time Warner and AT&T, do not lease this dark fiber to other CLECs.⁹³ Contrary to the assertions of the ILECs, fiber from alternative providers, to the extent that it exists, is largely limited to inter-city long haul networks, and does not encompass the vast majority of intra-city, interoffice routes.⁹⁴ In sum, the ILECs have grossly overstated the availability of fiber from alternative sources. The fact remains that dark fiber transport and loops are rarely available from alternative providers.

Second, the presence of significant economies of scale demonstrates that the Commission cannot assume that entry by a single non-ILEC supplier will lead to entry by multiple firms. That is, even where some entry is possible, it is likely that only a single or perhaps two non-ILEC suppliers have a realistic prospect of achieving the economies of scale needed to reach profitability in their areas of chosen deployment. Thus, the Commission must only rely on actual entry into the marketplace in assessing impairment; assessing potential entry is simply too uncertain for these purposes.

⁸⁹ CGC Consulting, State of CLEC Competition, at 6-7, Table 3 July 17, 2002 (“CGC Study”).

⁹⁰ CGC Study, at 7, Table 3.

⁹¹ WorldCom Comments, at 14.

⁹² WorldCom Comments, at 18.

⁹³ EPN Texas Report, at iii, 3, 12.

⁹⁴ Joint CLEC Comments, at 64-65.

Third, the presence of significant entry barriers makes it highly likely that ILECs will retain the ability to charge prices far above the competitive level even after non-ILEC suppliers have entered the market. The ILECs will only begin to lose that power when four or more substitutes have entered the relevant market. This is the logic of the Merger Guidelines used by the Department of Justice and the Federal Trade Commission to assess the lawfulness of proposed mergers. In the presence of high entry barriers, the Merger Guidelines establish a presumption of illegality for any merger that results in a Herfindahl-Hirschman Index (“HHI”) (which is the sum of squares of the individual market shares of all market participants) of 1800 or above.⁹⁵ The merger guidelines assign all firms in a market equal market share for purposes of its market power analysis where all firms have, on a forward-looking basis, an equal likelihood of securing sales.⁹⁶ Assuming that all firms offering dark fiber on a particular route have an equal likelihood of securing sales (a fairly generous assumption in light of the fact that the ILECs will retain certain artificial competitive advantages), the presence of three competitors will yield an HHI of 2500, well above the cutoff for concentration levels deemed permissible by the Guidelines. It is only when four non-ILEC alternatives have entered the market that the HHI (which would be 2000) comes reasonably close to the level of market concentration deemed permissible in the Merger Guidelines. At that point, the wholesale market for the provision of dark fiber can be assumed to be workably competitive and unbundling obligations can be eliminated.

Waiting until four competitors have entered the market before eliminating the unbundling obligation is entirely justified under the 1996 Act and the *USTA v. FCC* decision. The 1996 Act was designed to spur competition, and removing the regulation of ILEC dark fiber prices where the ILEC faces three or fewer competitors would allow the ILECs and their limited competitors to set prices far above the competitive level, since oligopolistic pricing is highly likely in such circumstances (again, this is the very basis for the approach adopted by the Merger Guidelines). Such high prices would distort competition by causing competitors to purchase less dark fiber than would be the case if prices were closer to cost. Nor is it any answer to say that the competitor should be able to get around this problem by deploying its own fiber. As mentioned, the economies of scale are very substantial, and regulators cannot have any confidence that the market would support more than three non-ILEC sources of supply (although changes in technology and/or demand could change this and allow for the elimination of unbundling obligations). Consistent with the *USTA v. FCC* decision, therefore, the Commission must take such economies of scale into account to continue requiring unbundling until it is proven that the wholesale market can be workably competitive.⁹⁷

⁹⁵ See Department of Justice/Federal Trade Comm’n, 1992 Horizontal Merger Guidelines, § 1.51(b), 5 F.R. 41552 (1992) (rev. Apr. 8, 1997).

⁹⁶ See *id.* at n. 15.

⁹⁷ Furthermore, as Conversent has explained elsewhere in this proceeding, the inherent inefficiencies built into the process of obtaining dark fiber from ILECs increases the true cost to well above TELRIC. See Letter from Scott Sawyer to Marlene H. Dortch filed in CC Dkt. Nos. 01-338, 96-98, 98-147 (Oct. 9, 2002). This fact demonstrates that the “costs” in terms of consumer welfare of unbundling dark fiber are less significant than the

Based on this analysis, the following impairment test is appropriate for dark fiber. Under the test, requesting carriers would be presumed to be impaired in the absence of unbundled ILEC dark fiber. This presumption could be rebutted only where an ILEC could demonstrate to a state commission that four substitutes exist in the relevant geographic market. In such a proceeding, the state commissions would conduct a granular analysis to determine whether CLECs have four robust market substitutes for ILEC dark fiber along a specific route (*e.g.*, the inquiry must examine whether there are actual viable alternatives to ILEC dark fiber between two identified points in the network, such as between two specific ILEC wire centers, or between one ILEC wire center and a specific customer premises). To qualify as a substitute, a non-ILEC source of supply must be deemed financially stable by the state commission. The state commission would not be permitted to consider the existence of alternative sources of lit service along that same route in its evaluation of alternative sources of dark fiber, because (as explained above) lit service is not an adequate substitute for dark fiber. Moreover, a state could not assume that a wholesaler of lit transport in the relevant geographic market would also offer dark fiber. Providers of lit transport simply cannot offer dark fiber in many circumstances. For example, where a lit provider has deployed a ring architecture, it cannot sell a segment of one of its fiber strands for purchase along a particular point-to-point route without rendering useless the rest of the fiber strand around the ring. This is obviously an inefficient use of facilities, and a non-ILEC supplier would never be able to make fiber available in these circumstances for anything close to a competitive price.

States would conduct the granular analysis proceedings upon petition by ILECs. The filing of an ILEC petition would not relieve the ILEC of its obligation to continue to provide existing and new dark fiber UNEs during the pendency of the proceeding. States would be free to structure the granular analysis proceedings in a manner they deem efficient, for example, by creating filing windows during which ILEC petitions could be filed and determining the length of time before subsequent windows would open. The Commission should establish a national rule that, at a minimum, ILECs may not initiate a granular analysis proceeding at a state commission for a given route within two years of a state commission's order regarding the ILEC's previous petition for that route.

Any determination by a state that a UNE should be withdrawn must be accompanied by a transition period of no less than thirty-six months or the remaining term of existing interconnection agreements (including any agreements in the section 252 arbitration and approval process at the time of the determination), whichever is longer, during which existing UNEs on existing routes must be maintained. Further, at the end of the transition period CLECs must be entitled to purchase the UNE as a service from the ILEC at a non-TELRIC rate to be determined by the state commission. In the case of dark fiber transmission facilities, that rate should not exceed the price of any dark fiber alternatives along the subject route or routes at the time of the determination.

D.C. Circuit assumed in *USTA v. FCC*, thus justifying retention of the unbundling obligation until the market for dark fiber is workably competitive. *See id.* at 1, 3.

In addition, when a state commission determines that a specific dark fiber route fails the impairment test and a CLEC chooses to move its traffic off the UNE, the ILEC shall be obligated to ensure that the traffic is migrated without any adverse impact on end user service. Alternatively, if a CLEC chooses to continue using the ILEC dark fiber at a non-TELRIC rate following the end of a UNE's availability on a specific route, the ILEC is prohibited from imposing any "conversion" conditions or charges, or objecting to any combination of UNEs and tariffed services entailed by the CLEC's choice.